

ABSTRACT

A multi-client ADSL modem network (10) that can be configured for a home or office network when multiple ADSL client modems (18) are installed in different communication terminals (22). One ADSL modem (14) at a central office (12) coordinates the remote multi-client modems (18) for communication over a single twisted pair loop carrier phone line (16), allowing the connected modems (18) to communicate not only with the CO modem (14), but also with each other by sharing frames, tones, or by code division techniques on upstream channels.

The CO modem (14) operates as a network hub and/or arbitrator, and facilitates one ADSL modem to become the master modem and maintain the superframe. The present invention provides home network ADSL service without extra wiring or equipment, thus providing a low cost approach for home networking of ADSL service.